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UNIVERSITY OF TORONTO

Faculty of Dentistry

ANNUAL EXAMINATIONS

1968

First Dental Year

BIOCHEMISTRY

No paper available

CHEMISTRY 252

January 13, 1968.

(TOTAL MARKS: 200) Name _____
(Print)

General Instructions:

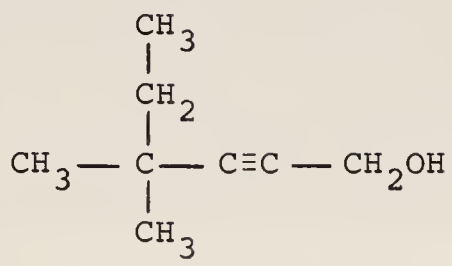
1. Use structural formulae wherever possible.

2. Notice that in some questions you have been given a choice. If all questions are answered when this is not required, the last ones will be omitted in the grading.

3. Check your examination paper to ensure that you have all 13 pages.

Marks

24 1. Name the following compound

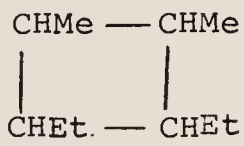


Write the structures of (i) an ether, (ii) a secondary alcohol, (iii) a conjugated diene and (iv) an α, β unsaturated aldehyde which are structural isomers of this compound.

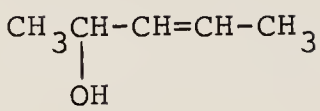
Name _____

24 2. Explain the terms geometric isomerism and optical isomerism. What conditions must be fulfilled by a molecule for it to exhibit optical isomerism?

Discuss the stereochemistry of the following compounds:



and



3. a) Explain the following, with the aid of suitable formulae:

i) phenol is acidic, while benzyl alcohol is not.

ii) methylamine is more basic than ammonia, while aniline is less basic.

iii) formic acid is a stronger acid than acetic acid.

Name _____

b) By considering the relative intermediates formed, explain why the hydroxyl group of phenol is ortho-/para-directing, while the nitro group of nitrobenzene is meta-directing.

Name _____

30 4. Use equations, structural formulae or a sentence or two to illustrate or explain briefly <u>ten</u> of the following terms used in organic chemistry.

a) S_N1 and S_N2 reactions

b) resonance

c) carbonium ion

d) racemic mixture

Name _____

e) diastereoisomers

f) orbital

g) electrophilic substitution

h) Markownikoff addition

i) nucleophile

j) ozonolysis

k) conjugation

l) sigma and pi bonds

Name _____

20 5. Write the structural formula of the peptide glycylalanine and write down equations which may be used to synthesize it from its component α-amino-acids.

Name _____

36 6. Write equations showing how six of the following transformations may be effected. Show all intermediate products, reagents and catalysts.

a) phenol $\longrightarrow$ adipic acid (1,6-hexanedioic acid)

b) phenol $\longrightarrow$ aspirin

c) toluene $\longrightarrow$ saccharin

d) benzene ⟶ sulphanilamide (p-animobenzenesulphonamide)

e) ethylene ⟶ lactic acid

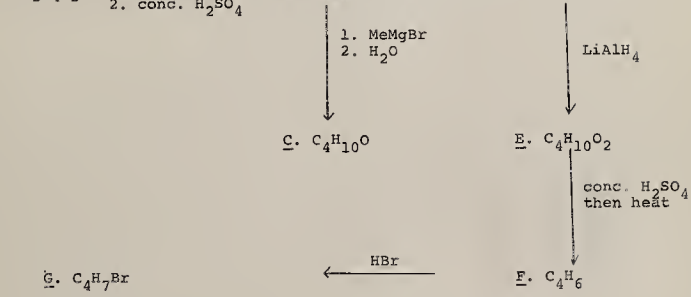
f) cyclohexanol ⟶ 2-cyclohexyl ethanol

Name _____

g) acetylene ⟶ but-2-ene-al

h) meta nitroaniline ⟶ meta nitrochlorobenzene

40 7. Explain briefly the meaning of keto-enol tautomerism.



FACTS	CONCLUSIONS
A evolves carbon dioxide when treated with aqueous sodium bicarbonate, while C and E react with sodium to liberate hydrogen.	
F may be polymerised to give a rubber-like material.	
D reacts with 2,4-dinitrophenylhydrazine and also reacts with bromine	

a) List at the right the conclusions you can draw from each fact given on the left.

b) Write down the structural formulae of the compounds A to H

First Dental Year

GROSS ANATOMY

No paper available

UNIVERSITY OF TORONTO
Faculty of Dentistry

ANNUAL EXAMINATIONS, 1968

FIRST YEAR

ORAL ANATOMY AND OCCLUSION

MARKS

40 1. You are conducting an examination and recording a history of a dental patient 11 years of age.

A. The examination reveals that the following exists or has occurred:

1. Straight terminal plane dentition.
2. Leeway space in the mandible of 4 mm.
3. A late mesial shift.
4. Secondary spacing.
5. A carious lesion involving:
   (a) The mesial labial incisal point angle of the maxillary right lateral incisor.
   (b) The mesial cervical clinical zone of the labial surface of the mandibular right cuspid.
   (c) The distal buccal developmental groove of the mandibular right first molar.
   (d) The transverse groove of the oblique ridge of the mandibular right first molar.
   (e) The mesial triangular fossa of the primary mandibular left first molar.

Illustrate separately the above conditions (1,2,3,4,5a, b,c,d,e,) by means of labelled drawings which stress dental anatomy.

A major proportion of the marks will be allotted for your knowledge of the dental anatomy of the teeth concerned.

10 B. The history reveals that the patient suffered a severe systemic condition during the first year of life which caused enamel hypoplasia of the developing dentition.

With your knowledge of the chronology of the dentition, variations and anomalies of tooth morphology, and dental anatomy, illustrate by means of labelled drawings.

1. The individual tooth involved.
2. The affect of the condition on the teeth involved and the portion of the crown affected.

15 2. Draw the sagittal diagram illustrating the border movements of the mandible and indicate on the diagram:

1. Centric relation
2. Centric occlusion
3. Centric position
4. Acquired centric
5. Habitual centric
6. Long centric
7. Terminal hinge position
8. Ligamentous position
9. Postural rest position
10. Interocclusal clearance
11. Freeway space
12. Position which is associated with Christensen's phenomenon
13. Position which requires the contraction of the Digaetric muscle.
14. Habitual path of closure
15. Centric relation arc

MARKS

ORAL ANATOMY AND OCCLUSION CONT'd.

25 3. With the aid of diagrams describe the relative contribution of the muscles during:

1. Routine depression of the mandible.
2. Maximum depression of the mandible.
3. Maximum left lateral movement of the mandible.
4. Swallowing.
5. Maximum opening of the oral cavity.

10 4. "Diet, molar patterns, dental formulae and temporomandibular joint anatomy are all interrelated".

With your knowledge of comparative anatomy, and with the aid of diagrams, discuss.

UNIVERSITY OF TORONTO
Faculty of Dentistry

Annual Examinations, 1968

FIRST YEAR

HISTOLOGY (Part II)

NOTE: Answer each question in a separate examination book (or books). Use illustrations wherever possible. Be brief.

MARKS

10 1. Discuss the development of the dental pulp up to the completion of primary dentin formation.

20 2. In table form compare the hard tissue genesis of bone, dentin, cementum and enamel.

15 3. a) List the features common to endocrine glands.

b) With the above features in mind compare the microscopic structure of the thyroid gland with that of the Islets of Langerhans.

15 4. Keeping in mind the relation between structure and function, and in table form only, compare and contrast the mucous membranes of the following:

Attached gingiva
Gall bladder
Duodenum
Trachea

10 5. Briefly compare the histological structure and functions of the distal tubule (thick portion of the ascending limb of Henle's loop) of the kidney nephron with those of the striated duct of the parotid gland.

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70 (Total marks for Part II)

UNIVERSITY OF TORONTO
Faculty of Dentistry

ANNUAL EXAMINATIONS, 1968

SECOND YEAR

BACTERIOLOGY

MARKS

10 1. Explain the following terms using appropriate examples:

(a) Virulence
(b) Blocking antibody
(c) Erythroblastosis faetalis
(d) Shwartzman phenomenon

15 2. Answer any two out of the following:

(a) What are the structures and properties of human antibody globulin?
(b) What are the mechanisms which are thought to be involved "in vivo" in acquired immunity?
(c) What are the differences in composition of the cell walls of gram positive and gram negative bacteria and how does this relate to the action of certain antibiotics?

15 3. What are the principles for the selection of antibiotics, the route of administration, and the dosages for treatment of infectious diseases caused by streptococci.

10 4. Discuss the pathogenesis, laboratory diagnosis, epidemiology and prevention of poliomyelitis.

10 5. Discuss briefly the hypersensitivity diseases involving autoantigens.

10 6. Give a short description and discuss the uses of:

(a) Dick test
(b) Shick test
(c) Kahn's flocculation test
(d) Tuberculin test
(e) Use dilution test for disinfectants

10 7. Answer either A or B

A. Discuss the causes of bacterial food poisoning. What are the clinical differences and list the procedures to confirm the causative agents in the laboratory? What are the treatments?

B. Discuss the differences in the pathogenesis, clinical symptoms, and epidemiology between primary herpes infection and Varicella. What are the laboratory procedures to confirm the diagnosis?

20 8. Write a short note on any four of the following:

(a) Candida infections
(b) Oral filamentous organisms
(c) Gas gangrene
(d) Occurence and diagnosis of skin diphtheria
(e) Preventive measures for tuberculosis
(f) Viral hepatitis
(g) Lactobacilli

Second Dental Year

GENERAL PATHOLOGY

No paper available

Second Dental Year

PHYSIOLOGY

No paper available

III year

Anesthesia

Periodontics

UNIVERSITY OF TORONTO
FACULTY OF DENTISTRY

Annual Examinations, 1968

THIRD YEAR

MARKS

ANAESTHESIA

25 1. Discuss the following local anaesthesia agents:

1) lidocaine
2) prilocaine
3) mepivacaine

Utilize the following headings:

a) comparative chemistry
b) solutions available
c) indications for each solution

25 2. Discuss post-operative control of pain under the following headings:

a) indications
b) drugs involved
c) dosages and prescription instructions

25 3. Enumerate the indications for general anaesthesia in dentistry.

25 4. A) Discuss the central and reflex control of breathing in the normal subject prior to a general anaesthetic

B) Discuss the changes in the control of breathing that one might expect to be associated with a general anaesthetic.

UNIVERSITY OF TORONTO
Faculty of Dentistry

ANNUAL EXAMINATIONS, 1968

KS

THIRD YEAR - PERIODONTICS

1. Make a drawing (use at least one full page) of a low power magnification of a lower incisor tooth and its supporting structures in cross section clearly indicating the anatomic histologic and pathologic details of the most common type of periodontal disease at a medium stage of progress. Drawing must be legible and accurately labelled.

2. a) List 10 local factors which may contribute to gingival and/or periodontal disease.
   b) List 5 systemic factors which may contribute as predispositions to periodontal disease or may help to exaggerate the tissue response to local irritants.

3. Discuss herpetic gingivo-stomatitis and aphthous stomatitis under the following headings:

   Cause, Signs, Symptoms, Therapy.

4. a) List signs and symptoms of dysfunctions of the muscles of mastication and the temporo-mandibular joints.
   b) List main causes of the temporo-mandibular joint syndrome.
   c) Discuss procedures for the treatment of an acute temporo-mandibular joint disturbance. i.e. one where the patient is having extreme pain.

5. a) What are the indications for the use of a displacement pack?
   b) What are the indications for the use of the gingivectomy procedure?
   c) What are the indications for the use of a flap procedure?

III year

Nutrition & Preventive Dentistry

UNIVERSITY OF TORONTO
Faculty of Dentistry

Annual Examinations, 1968

THIRD YEAR

NUTRITION AND PREVENTIVE DENTISTRY

MARKS

Please Answer Parts A and B in separate books.

Part A

17 1. (a) It is possible to estimate approximately in terms of nutrients, the nutritional adequacy of a diet by using a qualitative method of diet analysis based on Canada's Food Guide. Discuss.

(b) On which food groups and nutrients would you place emphasis in counselling the following:

(a) Chidren and adolescents
(b) All caries susceptible patients.

(Answer briefly).

Part B

12 1. List the physical properties and chemical constituents of saliva which influence the dental caries process, and explain how they act.

12 2. Describe, briefly, the theories on the mechanism of action of fluoride in reducing caries incidence.

Part B Cont'd.

MARKS

14 3. Discuss the dental plaque under the following headings:

(a) Composition
(b) Mechanism of attachment
(c) Processes involved in the formation and building of plaque.
(d) Metablic activities of plaque bacteria in respect to carbohydrate.

12 4. Write a short note on the development of caries in experimental animals and indicate how these findings relate to our knowledge of human caries.

Third Dental Year

ORAL PATHOLOGY

No paper available

UNIVERSITY OF TORONTO

Faculty of Dentistry

ANNUAL EXAMINATIONS, 1968

Third Year

PHARMACOLOGY

Examiners: F.A. Sunahara
M.A. Kumar
W.C. Sturtridge

Time: 3 hours

Part I is to be written in the examination books.

Parts II, III, IV and V must be handed in at the completion of the examination.

Please print your name on every sheet.

Marks Part I.

3 x 15 = 45 Please answer any three of the following four questions.

1. Compare and contrast heparin and bishydroxycoumarin under the following headings:
   (a) Pharmacological actions,
   (b) Mechanism of anticoagulation,
   (c) Route of administration
   (d) Correction of excessive effects.

2. Drugs may influence the function of the autonomic nervous system by:
   (a) Modifying the release of the neuromediators,
   (b) Modifying the action of the neuromediators,
   (c) Mimicking the effects of neuromediator release.

   Briefly discuss these statements with respect to the parasympathetic nervous system, naming a drug to illustrate each type of action.

3. Discuss in detail the pharmacology of thiopental.

4. Contrast activity, absorption, distribution and undesirable effects of chlortetracycline (aureomycin) and chloramphenical (chloromycetin).

Third Dental Year

PHARMACOLOGY. PART II.

No paper available

III year

Surgery

UNIVERSITY OF TORONTO
Faculty of Dentistry

ANNUAL EXAMINATIONS, 1968

THIRD YEAR

MARKS

GENERAL SURGERY

15 1. Describe and explain the early management of a patient with a 40% body area burn.

15 2. Describe the clinical features and treatment of a patient with acute hematogenous osteomyelitis.

15 3. Describe the clinical features and treatment of a basal cell carcinoma on the face.

15 4. (a) Describe the clinical features of a patient with a fracture of a long bone.

(b) Enumerate the complications that may arise from such a fracture.

ORAL SURGERY

Please answer in a separate book.

10 1. Describe your management of a patient who presents with an infected mandibular first molar due to caries. The toothache has somewhat subsided but there is a noticeable edema of the lower part of the face. The tooth is beyond repair.

ORAL SURGERY

MARKS

10 2. Discuss briefly the following:

a) Subperiosteal abscess caused by a decayed tooth.
b) Cellulitis of dental origin
c) Apical granuloma
d) Transient bacteraemia following removal of teeth.
e) Anatomic structures through which a hypodermic needle passes for mandibular nerve anaesthesia.

10 3. List the 10 most important medical conditions which should be investigated and considered prior to removal of teeth. Briefly discuss each one.

10 4. a) List uses of Penicillin for therapeutic and prophylactic purposes.

b) What combinations of antibiotics are used and what combinations are not used and why?

IV year

Dental Public Health

Practice Administration

Endodontics.

ENDODONTICS

MARKS

10 1. A patient presents with a lower first molar exhibiting a pulp involvement which demands either endodontic treatment or extraction. Discuss briefly the factors which would be pertinent to acceptance of the tooth for endodontic treatment.

15 2. As a result of trauma a child 7 years of age experiences a mesio angular fracture of the crown of a maxillary right permanent central incisor exposing the entire pulp horn. The accident reportedly occurred 12 hours prior to the child's visit to the dental office. Clinically there is no bleeding present at the site of the exposure. The pulp reacts to the stimulation of heat and cold. Radiographically the root of the tooth shows partial development with a divergence of the root canal walls in the apical third.

Discuss:

(a) The type of treatment indicated and the reason for your choice.

(b) The step by step procedures of this treatment.

(c) The effect of the treatment giving consideration to the biological repair and possible complications.

(d) The information given to the parent concerning possible future treatment.

5 3. Describe the indications for periapical surgery following root canal obliteration.

UNIVERSITY OF TORONTO
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Annual Examinations, 1968

FOURTH YEAR

DENTAL PUBLIC HEALTH

MARKS

17 1. It is apparent that there is not enough dental manpower in Canada and more planning should be done to ensure proper dental health care for Canadian citizens in the future.

a) Give a brief account of the Swedish, British, and New Zealand methods of providing dental care for children.

b) Discuss which features of these systems could be contained in a dental health service for Canadian children, giving reasons for your choices.

8 2. Do Part (a) OR (b).

a) List three criteria which may be used to recognize a health problem as a public health problem. Appl these criteria to one of the three major types of dental disease to demonstrate that the selected dental disease qualifies as a public health proble

b) There is a parallel between the methods or steps used in dealing with patients in private and in public health practice. In point form, list these steps for both private and public health practice so that this parallel is evident.

DENTAL PUBLIC HEALTH CONT'D.

3. Dental prepayment plans, designed to permit people to budget for dental care costs, are increasing rapidly in number in the United States. Such plans are now starting in Canada.

   a) What should the over-all objective of these plans be?

   b) What main factors do you think should be considered in designing these plans?

PRACTICE ADMINISTRATION

1. What are the advantages of a 'good recall' system to: (a) the Patient?
   (b) the Dentist?

2. Enumerate methods which help to prevent broken appointments in a dental practice.

3. (a) What bookkeeping records are required for income tax purposes?

   (b) Briefly explain one of these entry forms.

4. Give a method of calculating the fixed hourly overhead of operating a practice.

5. What is meant by a 'fair fee' for dental treatment?

ENDODONTICS CONT'D.

4. What criteria would indicate that a root canal is ready for obliteration?

IV year

Dental Radiology

Oral Surgery & Anesthesia

UNIVERSITY OF TORONTO
Faculty of Dentistry

Annual Examinations, 1968

FOURTH YEAR

DENTAL RADIOLOGY

MARKS

1. Describe periapical osteofibrosis, fibrous dysplasia, and Paget's disease under the following headings: -

15

Age incidence.
Sex incidence.
Site.
Radiographic appearance.
Differential radiographic interpretation.
Clinical findings.

Use diagrams to illustrate your answer where necessary

2. With this examination paper there are six prints of radiographs. Write a complete report of each case.

23

The six prints must be handed in with your answer book.

3. Discuss the various extra-oral radiographic projection which may be of use in dentistry.

Deal with this question under the following headings:

12

Structures visible.
Radiographic technique.
Uses.

If illustrations are of help in answering this questio they may be used.

ORAL SURGERY AND ANAESTHESIA

KS

1. Describe your management of a healthy male patient, age 30, with an acutely abscessed mandibular right first molar with moderate swelling of the right side of the floor of the mouth. The tooth is beyond repair.

2. List conditions in the oral cavity that may be advantageously corrected surgically before construction of complete maxillary and mandibular dentures is undertaken.

3. Describe briefly the surgical phase of:

   (a) the removal of roots of maxillary right second molar fractured in the process of removal. All three roots are fractured. Adjacent teeth are present.

   (b) Removal of apical third of root of mandibular left lateral incisor in an edentulous mouth.

4. Outline in point form your management of the following cases:

   (a) removal of maxillary lateral incisor on a patient on anticoagulant therapy whose prothrombin time is 22 seconds. (Quick method - normal 13)

   (b) A female patient who is $8\frac{1}{2}$ months pregnant with a severely aching second maxillary bicuspid which is beyond repair.

   (c) A twelve year old female patient who suffered loss of a maxillary central incisor in a playground accident with no other concomitant injuries and who presents within two hours with the tooth in hand.

ORAL SURGERY AND ANAESTHESIA CONT'D.

MARKS

4. Cont'd.

(d) A patient with a prognathic mandible and badly neglected dentition which is beyond repair presents for complete clearance of remaining teeth.

(e) A male patient, age 35, presents with history of a severe pain due to pulpitis of mandibular first molar the day before and who has consumed 3 dozen aspirins (5 grains each) in an attempt to control pain.

Please answer Question 5 in a separate book.

10 5. Discuss the application of sedation in dentistry under the following headings:

a) Indications and contra-indications for the general practitioner

b) Choice of drugs

c) Techniques and dosages

d) Office armamentarium

IV year

Oral Diagnosis

Medicine

UNIVERSITY OF TORONTO
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FOURTH YEAR

MARKS

ORAL DIAGNOSIS

20 1. Discuss the way in which factors in a patient's history may influence your formulation of an appropriate treatment plan.

15 2. Write brief notes on the following:

a) Oral pemphigus
b) Median rhomboid glossitis
c) Oral moniliasis

15 3. A young adult presents with a complaint of recent development of tender enlargement of the gingiva. Outline the procedure you would follow to investigate the condition.

MEDICINE

5 1. (a) List five substances produced by virulent streptococci which aid in their ability to produce infection and to spread throughout the body.

10 (b) Outline your method of treating an individual with Chronic Rheumatic Valvular Heart Disease who requires "traumatic" dental work, and discuss briefly why you are suggesting this treatment.

2. (a) Compare "Growth-Onset" and "Maturity-Onset" diabetes mellitus.

   (b) Relate the metabolic abnormalities in diabetes mellitus with the following clinical features:

      i) polyuria and polydipsia
      ii) weakness and fatigue
      iii) ketoacidosis

3. Answer any 5 of the following: (5 marks each).

   (a) What is the mode of action of Sulphonamides in combatting some bacterial infections?

   (b) Sulphonamides are said to be useful in the prevention of acute streptococcal infections, but not in the treatment of them. Give an explanation of this statement.

   (c) What is the mode of action of Tetracyclines, and what are some adverse reactions to them?

   (d) List five instances in which the prophylactic use of antibiotics in justified.

   (e) List five sites of action of antibiotics, and give an example for any two of them.

   (f) Write a short note distinguishing bacterial resistance from superinfection.

Fourth Dental Year

ORTHODONTICS

PAEDODONTICS

No paper available

IV year.

Restorative Dentistry

UNIVERSITY OF TORONTO
Faculty of Dentistry

Annual Examinations, 1968

FOURTH YEAR

RESTORATIVE DENTISTRY

MARKS

20 1. Discuss how a knowledge of Histology of the tooth influences Operative procedures in restorative dentistr

10 2. a) List the main steps in the preparation of a pin-slipper inlay on an upper central incisor.

b) Describe a good method of temporization for this preparation while the inlay is being fabricated.

c) When is this preparation indicated?

5 3. By means of illustration, submit two possible designs for a fixed bridge replacing an upper cuspid, where onl this tooth is missing.

Please answer Questions 4, 5 and 6 in a separate book.

10 4. Discuss briefly the "Burning Mouth Syndrome".

15 5. Discuss the rationale of the use of soft liners and the application in prosthodontics.

10 6. Compare the precision type of direct retainer with the conventional circumferential retainer by considering the following aspects:

a) How retention is derived.

RKS

6. Cont'd.

b) Indications for usage for each.

c) Advantages and disadvantages of each type.

Please answer Questions 7, 8 and 9 in a separate book.

10 7. List steps employed in a functional analysis of occlusion in Periodontics.

8. State the significance of the following observations (made while performing functional occlusal analysis).

5 a) Sound is dull when back teeth are tapped together forcibly.

5 b) The mid-line between lower incisors deviates to one side as the teeth are closed from rest position to occlusion.

5 9. a) List causes of recession of the gingival tissues.

5 b) Illustrate, by drawings, the three most common direct local causes of recession of the gingival tissues.

Anatomy

UNIVERSITY OF TORONTO
Faculty of Dentistry

ANNUAL EXAMINATIONS, 1968

FIRST YEAR DENTAL HYGIENE

PART A - ORAL ANATOMY & OCCLUSION

Please answer Part A and Part B in separate books.

MARKS

You are conducting an examination and recordin
a history of a dental patient 12 years of age.

40 A. The examination reveals the following:

1. A class 11, division 11 malocclusion.
2. A freeway space of seven millimetres.
3. An overjet of four millimetres.
4. An overbite of seventy percent.
5. A carious lesion involving:

   a) The mesial labial incisal point angle of the maxillary right lateral incisor.
   b) The mesial cervical clinical zone of the labial surface of the mandibular right cuspid.
   c) The distal buccal developmental groove of the mandibular right first molar.
   d) The transverse groove of the oblique ridge of the maxillary right first molar.
   e) The mesial lingual supplemental groove of the maxillary right first premolar.

Illustrate separately the above conditions (1,2,3,4,5 a,b,c,d,e) by means of labelled drawings which stress dental anatomy.

* A major proportion of the marks will be allotted for your knowledge of the dental anatomy of the teeth concerned.

AKS

ORAL ANATOMY CONT'D.

1 B. The history reveals that the patient suffered a severe systemic condition during the first year of life which caused enamel hypoplasia of the developing dentition.

With your knowledge of the chronology of the dentition, variations and anomalies of tooth morphology, and dental anatomy, illustrate by means of labelled drawings,

1. The individual teeth involved.
2. The affect of the condition on the teeth involved and the portion of the crown affected.

PART B - GROSS ANATOMY

2 1. Describe the female reproductive system.

5 2. Discuss the nerve supply to the teeth in the maxilla and the mandible.

3 3. Describe the temporal-mandibular joint.

) 4. Discuss briefly only two of the following:

a) The gall bladder.

b) The submandibular gland.

c) The right atrium and left ventricle of the heart.

UNIVERSITY OF TORONTO
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Annual Examinations,1968

FIRST YEAR DENTAL HYGIENE

BACTERIOLOGY

MARKS

10 1. Explain the following terms using an example in each case:

(a) Virulence
(b) Widal test
(c) Endotoxin
(d) Repressor substance

10 2. Give a description of any two of the following:

(a) Lancefield classification of streptococci.
(b) The relationship of the titer of antibodies and time resulting from vaccination and from the injection of antisera.
(c) The natural host-defence mechanisms.

10 3. What are the bacterial and host mechanisms in the development and healing of a sore throat caused by pyogenic streptococci?

10 4. What are the events during childhood and adult life which can

(b) What is the participation of oral bacteria in the caries process?

15 6. Answer one of the following:

(a) What is the pathogenesis of tuberculosis? What therapeutic and preventive measures have caused the incidence to drop in the last decade?

(b) What is the relationship of the life cycles of the malaria parasite and the development and spread of malaria? What therapeutic and preventive measures are available?

10 7. What factors in the relationship between host, drug and bacteria influence the choice of the type and dose of antibiotics during therapy of an infectious disease?

20 8. Write a short note about any four of the following:

(a) Food poisoning
(b) Puerperal fever
(c) Beneficial role of the normal bacterial flora
(d) Erythroblastosis faetalis
(e) Rheumatoid arthritis
(f) Role of M, N, S and s blood groups in transfusions
(g) Contact dermatitis

Examiners: E. Ehmann
D.J. Hennyey

UNIVERSITY OF TORONTO
Faculty of Dentistry

ANNUAL EXAMINATIONS, 1968

FIRST YEAR DENTAL HYGIENE

Introduction to Biological Chemistry
and Human Nutrition 100.

FIVE Answers constitute a complete paper.

All questions are of equal credit.

1. Describe the conditions which result from a deficiency of FOUR of the following. For each list TWO common foods which are rich in that nutrient.

(a)	Thiamin	(d)	Iron
(b)	Ascorbic acid	(e)	Retinol
(c)	Nicotinic acid	(f)	Protein

2. The Kreb's Citric Acid Cycle is sometimes referred to as the 'hub of metabolism'. Justify the use of this term as applied to the inter-relationship of protein, fat and carbohydrate.

Answer EITHER 3a OR 3b

3a. Give the meaning of FIVE of the following terms and write a brief note on their biological significance.

(i)	Transamination	(v)	RNA-Template
(ii)	Decarboxylation	(vi)	Radical
(iii)	Codon	(vii)	Unsaturation
(iv)	Mitochondrion	(viii)	Inborn Error of Metabolism

3b. Draw a diagram of a typical animal cell. Label the structures and give specific functions for each.

4. Define the term 'Dietary Standard'. Discuss and compare the Canadian Dietary Standard (1964) and Canada's Food Guide (1961).

Answer EITHER 5 OR 6

5. Outline the roles played by the following nutrients in the development and maintenance of healthy teeth.

Vitamin A	Calcium
Vitamin D	Phosphorus
Ascorbic Acid	Carbohydrate

OR

6. Discuss the relative advantages and disadvantages of having a fluoridated municipal water supply.

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FIRST YEAR DENTAL HYGIENE

ENGLISH

Answer FOUR questions, one from each section and the fourth from any section. Do not write on the same text twice.

A

1. "The real hero of Joseph Andrews is Parson Adams." Discuss.

2. Compare the presentetion of the two Cetherines in Wuthering Heights.

3. Comment on the treatment of isolation in A Portreit of the Artist and Catcher in the Rye.

B

4. "There are, in fact, two Othellos, the noble Moor of the opening ecanes, and the 'base Indian' of the second half of the play." Discuss.

5. Discuss the influance of the pest in either The Master Builder or A Doll's House.

6. Discuss the effectiveness of the stege setting in A Streetcar Named Desire.

7. Compare the treetment of time in Oedipus Rex and Wuthering Heights.

C

8. Compare Milton's treetment of light and darkness in either Paredise Lost or TWO or THREE other poems.

9. Trace the changing attitude to Nature in Wordsworth's poetry.

10. Compare the function of a speaker in several poems by Browning and Eliot.

11. Discuss the terms in which Yeets presents his view of history in TWO or THREE of his poems.

12. Write e critical analysis of the following poem:

Nature's first green is gold,
Her hardest hue to hold.
Her eerly leaf's a flower;
But only so an hour.
Then leaf subsides to leaf.
So Eden sank to grief,
So dewn goes down to day.
Nothing gold can stay.

(Robert Frost)

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FIRST YEAR DENTAL HYGIENE

HISTOLOGY

MARKS

15 1. a) By means of a fully labelled drawing illustrate the microscopic anatomy of the periodontal ligament in the area of the middle third of the root.

5 b) Explain how the periodontal ligament might function as a "compressive hydraulic buffer".

5 2. a) Define the term mucous membrane.

5 b) Classify the oral mucous membranes.

10 c) By means of a fully labelled drawing illustrate the microscopic anatomy of any one specific example in the above classification of mucous membranes.

35 3. Draw the following and label fully.

a) cementum in a trifurcation area
b) Tomes' granular layer
c) transition area of the lip
d) alveolar bone proper
e) age changes in the dental pulp
f) interstitial space of the periodontal ligament
g) an area of root resorption

25 4. Write notes on and illustrate the following:

a) odontoblast
b) ameloblast
c) enamel organ
d) dental lamina
e) reparative dentin

First Year Dental Hygiene

PSYCHOLOGY

No paper available

Paper #1

Clinical Nutrition
Preventive Dentistry
Pardodontics
Dental Public Health

PAEDODONTICS

MARKS

15 1. (a) Define the following terms which are frequently used in paedodontia:

i) Oligodontia
ii) Supernumerary tooth
iii) Ankylosis
iv) Hypoplasia
v) Diastema
vi) Anodontia
vii) Supplemental tooth
viii) Ectopic eruption
ix) Mid-line shift
x) Hypocalcification

(b) Name one cause for each condition (or systemic disturbance, whichever is applicable) in which each of the above anomalies can be found.

10 2. (a) List 5 possible sequelae subsequent to premature loss of deciduous teeth.

(b) List 5 ways by which the paedodontist preserves space for the developing permanent teeth.

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SECOND YEAR DENTAL HYGIENE

CLINICAL NUTRITION

MARKS

10 1. It is possible to obtain a fairly good idea of the nutritional adequacy of a diet in terms of nutrients by use of a qualitative method of dietary analysis based on Canada's Food Guide. Explain.

15 2. Write and discuss dietary recommendations for the following: -

(a) A 14 year old boy - 15 lbs. overweight - with rampant caries - Swab 3.6 and L. Acidophilus count 300,000. Food intake record showed an adequate intake of meat, eggs, potatoes, cereals and bread and an extremely high intake of cariogenic foods.

(b) A 5 year old girl - average weight - moderate to high caries susceptibility - Swab 4.0 and L. Acidophilus count 20,000. Diet adequate nutritionally.

(c) An adult - 10 lbs. underweight - caries inactive - Swab 4.8 - L. Acidophilus count zero. Food intake record showed extremely low intake of calcium, vitamin C, vitamin A and protein and no cariogenic foods.

PREVENTIVE DENTISTRY

ARKS

15 1. Write a short paragraph under each of the following, stressing the main points:

(a) Dental fluorosis
(b) The mechanism of action of topical fluorides in the prevention of dental caries.
(c) The role of saliva as a natural defence mechanism in oral health.

10 2. In point form, state the important findings of the Vipeholm Study as they relate to carbohydrate consumption and dental caries.

DENTAL PUBLIC HEALTH

MARKS

10 1. Some dental health procedures or measures are best organized and implemented on a group or community basis rather than on an individual or private office basis. List three such procedures or measures and elaborate briefly on one of these to show why the group approach might be superior.

9 2. List three criteria which can be used to recognize health problems as public health problems. By applying these criteria show whether dental caries qualifies as a public health problem.

6 3. Answer only TWO of the following:

(i) Indicate by means of a sketch how official and unofficial agencies with an interest in dental health are organized. What is one key factor which sets these two basic agencies apart from each other?

(ii) Discuss briefly the role of mass media in dental health education.

(iii) Describe the concept of "severity levels" as introduced by the new W.H.O. simplified dental survey system.

(iv) When speaking of populations and water fluoridation what does the term percentage possible mean? Give an example.

Paper #2

Pathology
Periodontics

UNIVERSITY OF TORONTO
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ANNUAL EXAMINATIONS, 1968

SECOND YEAR DENTAL HYGIENE

PATHOLOGY

MARKS

10 1. Give brief descriptions of:

(a) Actinomycosis
(b) Leprosy
(c) Coccidioidomycosis
(d) Carcinoma-in-situ
(e) Basal cell carcinoma

15 2. Describe the anatomic peculiarities of dental pulp tissue.

10 3. Name and describe briefly five lesions of the dental pulp.

15 4. Describe the development and microscopic appearance of a dental granuloma.

PERIODONTICS

KS

1. (a) Describe a method for differentiation of periodontitis simplex and periodontitis complex.

   (b) Describe, using drawings, periodontal pockets most commonly present with periodontitis simplex and periodontitis complex.

2. Describe, using drawings, factors which influence the mobility of teeth.

3. List five predisposing causes of bleeding of the gingivae.

4. Describe the differences between supragingival calculus and sub-gingival calculus.

Paper # 3

Second Year Dental Hygiene

PHYSIOLOGY

No paper available

Paper #4

Orthodontics

Pharmacology

UNIVERSITY OF TORONTO
Faculty of Dentistry

ANNUAL EXAMINATIONS, 1968

SECOND YEAR DENTAL HYGIENE

Part A - Orthodontics

MARKS	
	Please answer Parts A and B in separate books.
10	1. What percentage of Canadian children have: (i) malocclusions (ii) handicapping malocclusions
10	2. List those intra oral procedures the Hygienist might perform to relieve the Orthodontist.
10	3. Briefly discuss the aetiology of malocclusion.

Part B - Pharmacology

5	1. Give one example of each of the following types of therapeutic agents: (a) caustic (b) antibiotic (c) sedative (d) analgesic (e) vasoconstrictor
4	2. Name two drugs that may be used to reduce salivary flow.

MARKS

Part B - Pharmacology Cont'd.

6 3. What are the three drugs contained in analgesic tablets known as A.P.C.'s?

6 4. Give one example each of the following types of barbiturates:

(a) Long-duration
(b) Medium-duration
(c) Short-duration

3 5. List in order of expected effectiveness three ways a drug may be administered.

6 6. Give one example for each, of a therapeutic agent that may be used for the following:

(a) Reduce inflammation
(b) Treat mild allergic reactions
(c) Control post-operative bleeding

Paper # 5

Second Year Dental Hygiene

SOCIOLOGY

No paper available